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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:

Applicant : Haruo Kamei
Serial No. : 09/691,017
Filed : October 18, 2000
Title : ABRASIVE MATERIAL
Docket : 550718-077
Examiner : Willie Wendell Berry, Jr.
Art Unit : 3723

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Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

RESPONSE

This paper is being filed in response to the Office action dated September 12, 2002. Applicants hereby request a two-month extension of time and enclose herewith the applicable fee. Review and reconsideration of the application are requested in view of the following comments.

Claims 7, 9, 11, 13, 14 and 16-26 are pending in the present application.

Claims 7, 9, 20 and 22-24 stand rejected under 35 U.S.C. §102 (b) as being anticipated by European Patent No. 798,081 to Nokubi et al. According to the Office action, Nokubi discloses an abrasive material comprising a core, a polishing layer, a flexible layer and abrasive particles. The Office action indicates that the synthetic glue used to adhere the abrasive particles to the

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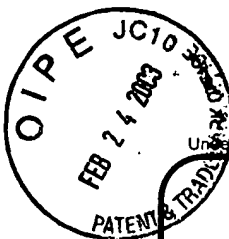
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PTO/SB/21 (08-00)

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(to be used for all correspondence after initial filing)

Application Number	09/691,017
Filing Date	October 18, 2000
First Named Inventor	Haruo Kamei
Group Art Unit	3723
Examiner Name	Willie Wendell Berry, Jr.
Attorney Docket Number	550718-077

Total Number of Pages in This Submission 7

ENCLOSURES (check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input checked="" type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ Remarks: The Commissioner is hereby authorized to charge any additional fees required (including the fee for any extension of time), or to credit any overpayment, to Deposit Acct No.: 20-0809.	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Return Post Card Check for \$205.00
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Thompson Hine LLP 2000 Courthouse Plaza NE, 10 West Second Street Dayton, Ohio 45402-1758
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core is inherently flexible because the pliant shot deforms during use. Applicant traverses this rejection for the following reasons.

It is respectfully submitted that the Nokubi reference fails to disclose or suggest the present invention. Independent claims 7 and 22 of the present application recite an abrasive material comprising a core and a polishing layer wherein the polishing layer includes a flexible layer and abrasive particles. This flexible layer set forth in the claims is not disclosed or suggested in the Nokubi reference. As indicated at page 2, lines 6-11 of the present application, the flexible layer of the abrasive material provides the flexibility conventionally required of the core. The flexible layer allows the abrasive material to slide on the work surface by absorbing the impact when the abrasive material strikes the work surface. By contrast, the abrasive material disclosed in the Nokubi reference relies on the flexibility of the core (carrier) to provide the necessary sliding action of the abrasive particle across the surface of the work. See column 2, lines 15-18 of Nokubi. Furthermore, there is no indication or suggestion that the glue or adhesive used to secure the abrasive powder to the carrier is flexible. Reliance on an inherent disclosure in a reference must be based on more than mere conjecture. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)(emphasis in original) Accordingly, it is respectfully submitted that the Nokubi reference fails to disclose or suggest the invention claimed in claims 7, 9, 20 and 22-24. Accordingly, it is respectfully requested that the rejection of these claims be withdrawn.

Claims 7, 9, 11, 13, 14, and 16-26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,251,002 to Close. As indicated in the Office action, Close discloses an abrasive material comprising a core, a polishing layer having abrasive particles and an adhesive. Furthermore, as acknowledged in the Office action, Close fails to disclose the abrasive material in the form of granules, the core made from foam resin, the specific size of the

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core and specific composition of the adhesive. The Office action indicates that modifying the abrasive material in Close to arrive at the present invention would be obvious. Applicant traverses this rejection for the following reasons.

Applicant maintains that the Office has failed to establish a *prima facie* case of obviousness. There is no teaching or suggestion either in the Close reference or in the knowledge readily available to one of skill in the art to modify the abrasive material disclosed in Close to arrive at the present invention. Second, Close fails to teach or suggest all of the claim limitations.

Independent claims 7 and 22 recite an abrasive material in the form of granules. The disclosure in Close that the core may be of any cross-sectional shape is insufficient to provide the necessary motivation for modifying the core, much less the abrasive material itself, to a granular shape. Accordingly, Close fails to provide the necessary teaching or motivation to modify the abrasive material into a granular form. In fact, the proposed modification would render the abrasive material in Close unsatisfactory for its intended purpose and, as such, it fails to provide the necessary suggestion or motivation. *See, In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). The abrasive articles described in Close typically include a hollow core with surface treating segments attached to the core. The surface treating articles disclosed by Close include flap brushes, cleaning brushes, bristle brushes and convolute wheels. One of skill in the art reading Close would never consider making granular abrasive materials as claimed in the present application. The articles in Close "are made by attaching suitable surface treating segments such as flaps, disks or bristles, for example, to the outer peripheral surface of a rotatable core." Column 1, lines 31-37. The intended purpose of the article is to provide surface conditioning by rotating the core and maintaining the abrasive article in contact with the work piece. Although the reference broadly suggests that the core may or may not include a central bore therethrough, it is apparent from the teaching of the entire reference that rotation of the abrasive article is a key component in the surface treating operation. Applicant contends that if

the abrasive articles of Close were in granular shape the surface treating articles would be inoperable for their intended purpose. There would be no rotatable core and the granules would not include the surface treating segments which are an integral part of the Close abrasive article.

Likewise, Close fails to disclose or suggest a porous synthetic foam resin core as set forth in claim 7. Again, the broad disclosure in Close that the core can be made from various materials fails to satisfy the requirement for a specific teaching, suggestion or motivation. Close discloses a list of useful core materials but fails to disclose a porous synthetic foam resin as set forth in the claims of the present application. Therefore, applicant submits that claim 7 is patentable over Close for at least this reason as well.

Claims 11 and 13 are considered to be separately patentable because the prior art reference fails to disclose or suggest a polishing layer comprising multiple layers. Therefore, it is respectfully submitted that the Office action fails to establish a *prima facie* case of obviousness with respect to claims 11 and 13.

Likewise, the Office action has failed to establish a *prima facie* obviousness with respect to claims 14, 16-18 and 25. These claims recite that the flexible layer includes an emulsion adhesive. The Close reference fails to disclose or suggest the use of an emulsion adhesive as part of a flexible layer for attaching abrasive particles onto the abrasive material. Therefore, it is respectfully submitted that the rejection of claims 14, 16-18 and 25 as well as the claims dependent thereon should be withdrawn for this reason as well.

Claim 22 and the claims dependent thereon are directed to an abrasive material for a spray application in a surface finishing process. The abrasive material comprises a plurality of granules wherein the granules comprise an internal core and an external polishing layer. The polishing layer comprises a flexible layer and abrasive particles wherein the flexible layer substantially surrounds the internal core. Close fails to disclose or suggest an abrasive material comprising a plurality of granules having the claim structure. For example, Close fails to

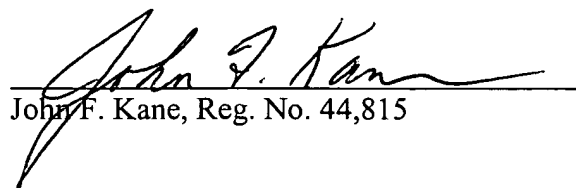
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disclose or suggest a granule having a flexible layer substantially surrounding an internal core. Furthermore, one of ordinary skill in the art at the time of the present invention would not have been motivated to modify Close to reach the invention as claimed because the reference fails to provide any motivation to make the proposed modifications. Although a reference need not expressly teach that the disclosure contained therein should be combined with another or modified, the showing must nevertheless be "clear and particular." *Winter Royalty Corp. v Wang*, 202f.3d 1340, 1348-1349 (Fed. Cir. 2002). Certainly, there is nothing recited in Close that provides "clear and particular" motivation to one of ordinary skill in the art to make the modifications as proposed in the Office action. Specifically, there is absolutely no teaching or suggestion that would motivate one of ordinary skill in the art to produce an abrasive material in the form of granules having a core made from foam resin and a polishing layer wherein the polishing layer comprises a flexible layer which substantially surrounds the internal core. Therefore, for at least these reasons claim 22 and claims 23-26 dependent thereon are patentable over the cited reference.

In view of the foregoing, it is respectfully submitted that claims currently pending are distinguishable from the references cited and are in condition for allowance. Reconsideration of the rejections of record is respectfully requested. If the examiner wishes to discuss any aspect of this response, please contact the undersigned at the telephone number indicated below.

Respectfully submitted,


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